

# SERVICE MANUAL



## LW/MW/FM STEREO RECEIVER

## DCX 233L (EUROPE)



### SPECIFICATIONS

#### POWER AMPLIFIER SECTION

|              |                                                                                                                                        |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Power Output | 20 watts per channel RMS minimum continuous power into 8 ohms load, with maximum total harmonic distortion of 0.1 % at 40 Hz — 20 kHz. |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------|

#### PRE-AMPLIFIER SECTION

|                             |                                                                                 |
|-----------------------------|---------------------------------------------------------------------------------|
| Tone Controls               | Bass (100 Hz): $\pm 10$ dB<br>Treble (10 kHz): $\pm 10$ dB<br>+8 dB (at 100 Hz) |
| Loudness Control            | +4 dB (at 10 kHz)                                                               |
| Input Sensitivity/Impedance | Phono: 2.5 mV/50 kohms<br>Tape: 150 mV/30 kohms                                 |
| Tape Rec Output Level       | 150 mV                                                                          |
| Frequency Response          |                                                                                 |
| Phono (30 Hz — 15 kHz)      | $\pm 0.5$ dB                                                                    |
| Tape (20 Hz — 20 kHz)       | $\pm 0.5$ dB                                                                    |

#### FM SECTION

|                               |                   |
|-------------------------------|-------------------|
| Tuning Frequency Range        | 88 MHz to 108 MHz |
| Usable Sensitivity (DIN) Mono | 1.5 $\mu$ V       |
| (IHF) Mono                    | 3.0 $\mu$ V       |
| IF Rejection                  | 80 dB             |
| Image Rejection               | 50 dB             |
| AM Suppression                | 60 dB             |
| Capture Ratio                 | 1.0 dB            |
| Selectivity (DIN)             | 70 dB             |

#### FM SECTION

|                              |        |       |
|------------------------------|--------|-------|
| Signal to Noise Ratio        | Mono   | 65 dB |
|                              | Stereo | 60 dB |
| Harmonic Distortion          | Mono   | 0.2 % |
|                              | Stereo | 0.5 % |
| Stereo Separation (at 1 kHz) |        | 40 dB |

#### AM (MW/LW) SECTION

|                        | MW                  | LW                 |
|------------------------|---------------------|--------------------|
| Tuning Frequency Range | 535 kHz to 1605 kHz | 150 kHz to 350 kHz |
| Usable Sensitivity     | 300 $\mu$ V/m       | 700 $\mu$ V/m      |
| IF Rejection           | 40 dB               | 40 dB              |
| Image Rejection        | 40 dB               | 40 dB              |
| Selectivity            | 40 dB               | 40 dB              |
| Signal to Noise Ratio  | 55 dB               | 55 dB              |

#### GENERAL SECTION

|                            |                        |
|----------------------------|------------------------|
| Power Source               | AC: 110/220 V<br>50 Hz |
| Power Consumption          | 120 W                  |
| Dimensions (W) x (D) x (H) | 420 x 300 x 125 mm     |
| Weight                     | 6.6 kg (approx.)       |

\*Specifications are subject to change without notice.

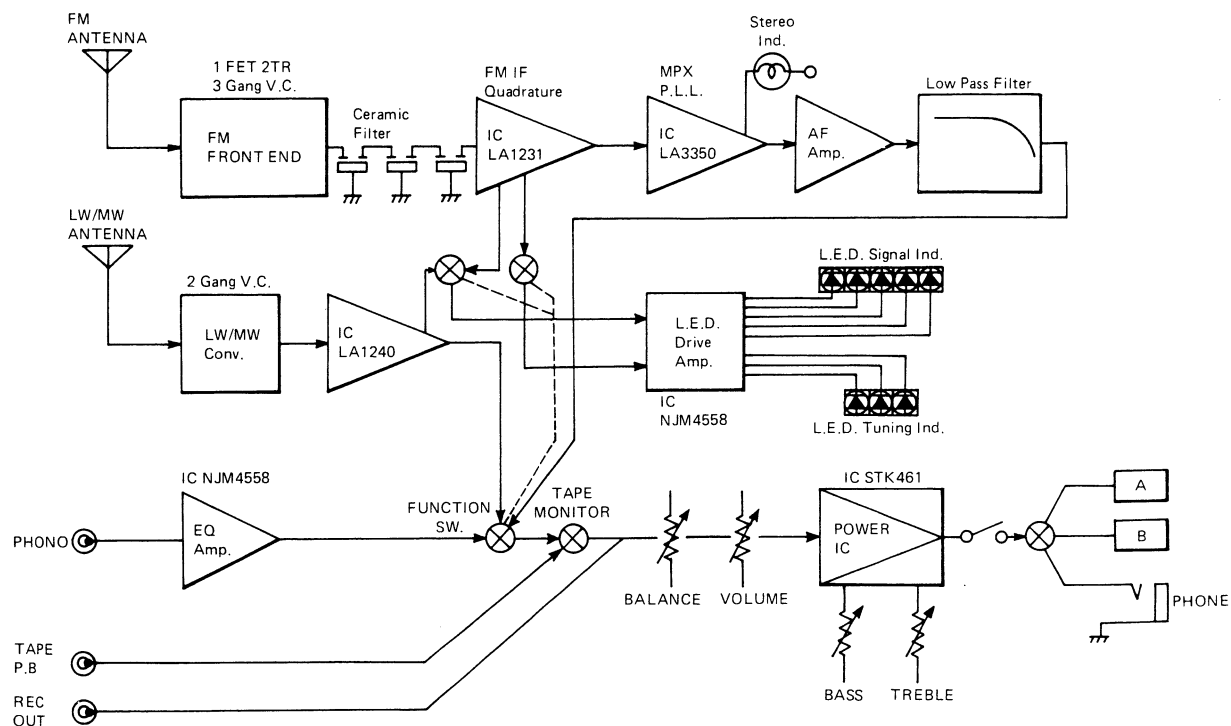
# CONTENTS

|                                             |                 |
|---------------------------------------------|-----------------|
| Functional Block Diagram .....              | 2               |
| Dial Cord Stringing .....                   | 2               |
| IC Equivalent Circuit & Block Diagram ..... | 3,4             |
| Exploded View of Cabinet and Chassis .....  | 5               |
| Parts List .....                            | 6               |
| AM-FM Multiplex Alignment .....             | 7               |
| Printed Circuit Board .....                 | 8,9,10,11,12,13 |
| Parts List .....                            | 14,15,16,17     |
| Schematic Diagram .....                     | 18,19           |
| Point to Point Wiring Diagram .....         | 20,21           |
| Semiconductor Lead Identification .....     | 22              |

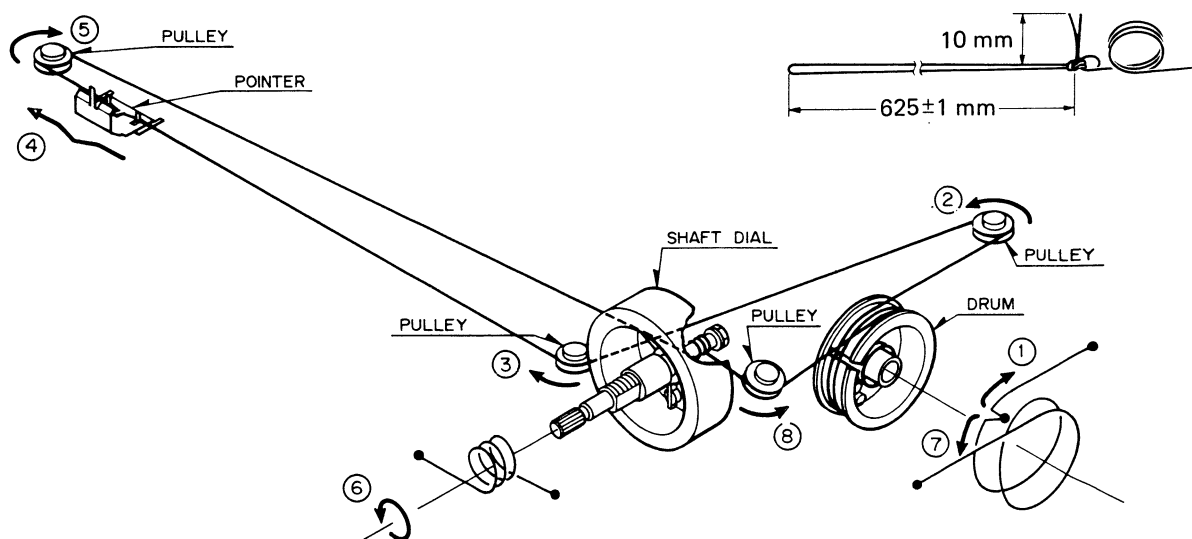
## PRODUCT SAFETY NOTICE

Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by mark ⚠ in the parts list and the circuit diagram designate components in which safety can be of special significance. It is particularly recommended that only parts designated on the parts list in this manual be used for component replacement designated by mark ⚠. No deviations from resistance wattage or voltage ratings may be made for replacement items designated by mark ⚠.

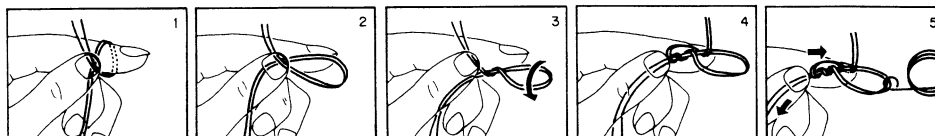
## FUNCTIONAL BLOCK DIAGRAM



## DIAL CORD STRINGING



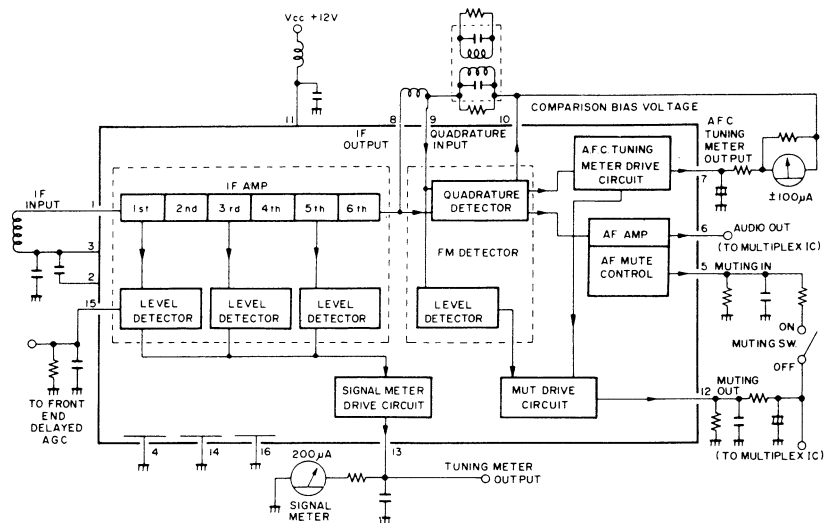
## CORD KNOTTING



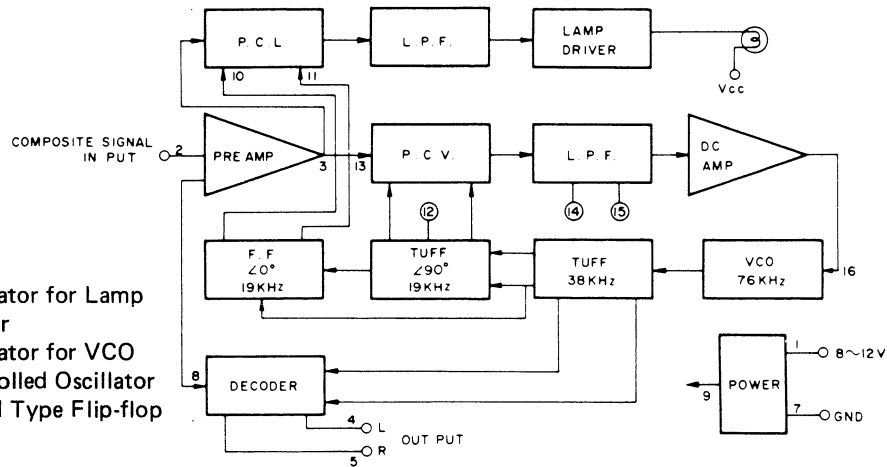
NOTE: Check to see that the dial cord is correctly strung by turning the dial.

# IC EQUIVALENT CIRCUIT & BLOCK DIAGRAM

## FM IF IC LA1231

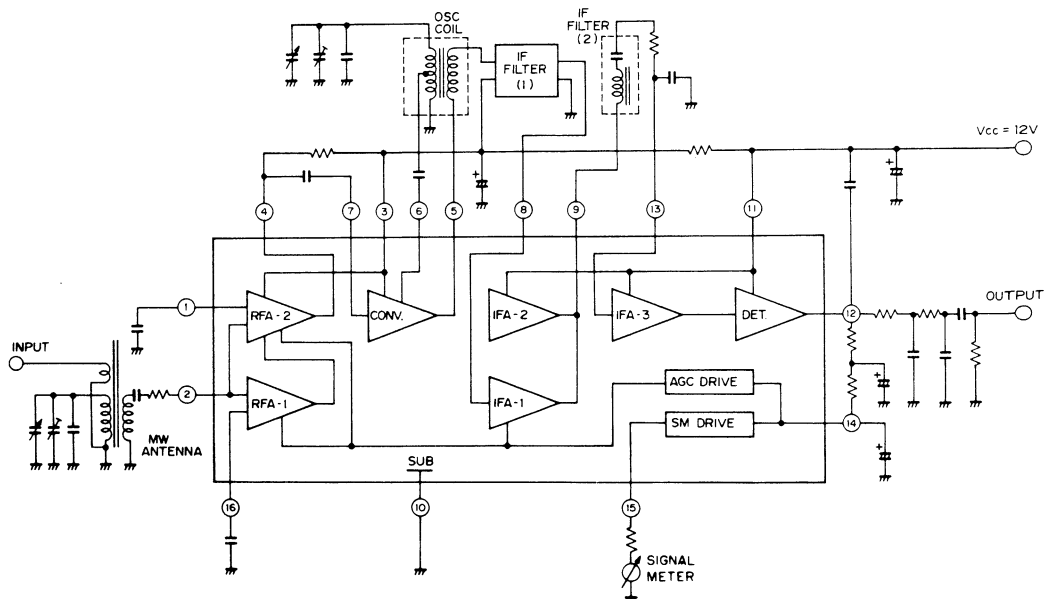


## FM MPX IC LA3350



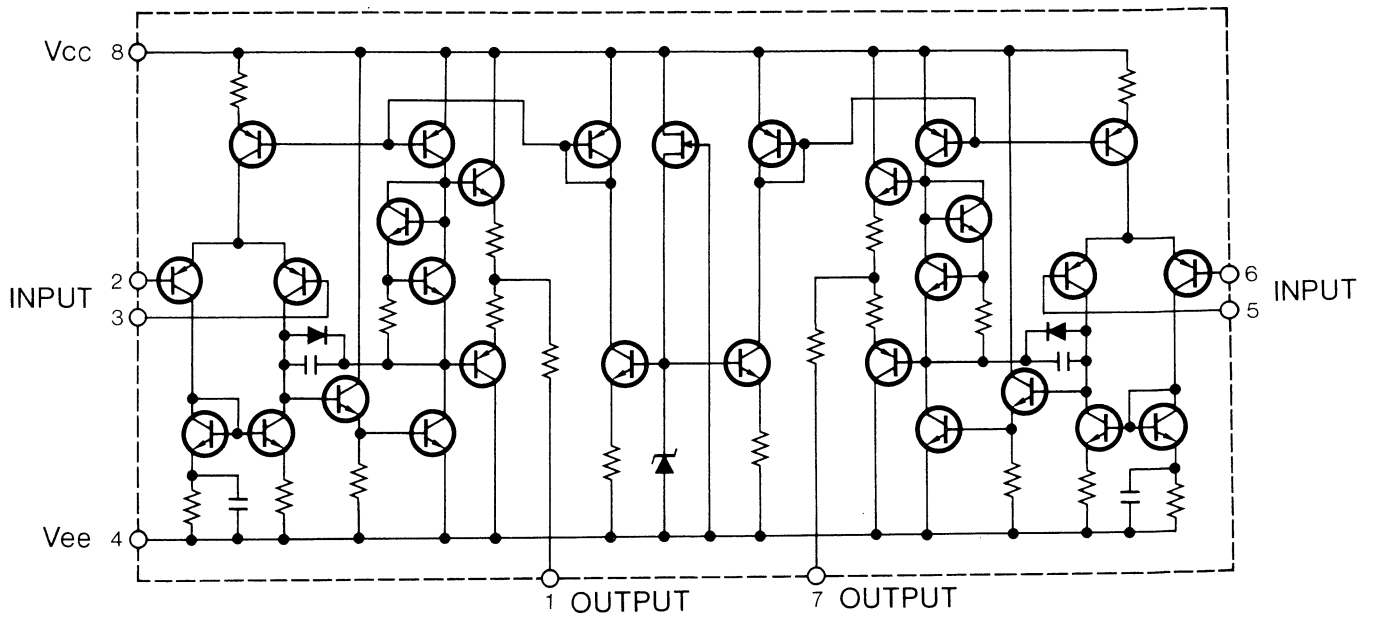
P. C. L. : Phase Comparator for Lamp  
 L. P. F. : Low Pass Filter  
 P. C. V. : Phase Comparator for VCO  
 V C O : Voltage Controlled Oscillator  
 TUFF : Direct coupled Type Flip-flop

## AM RF IF IC LA1240

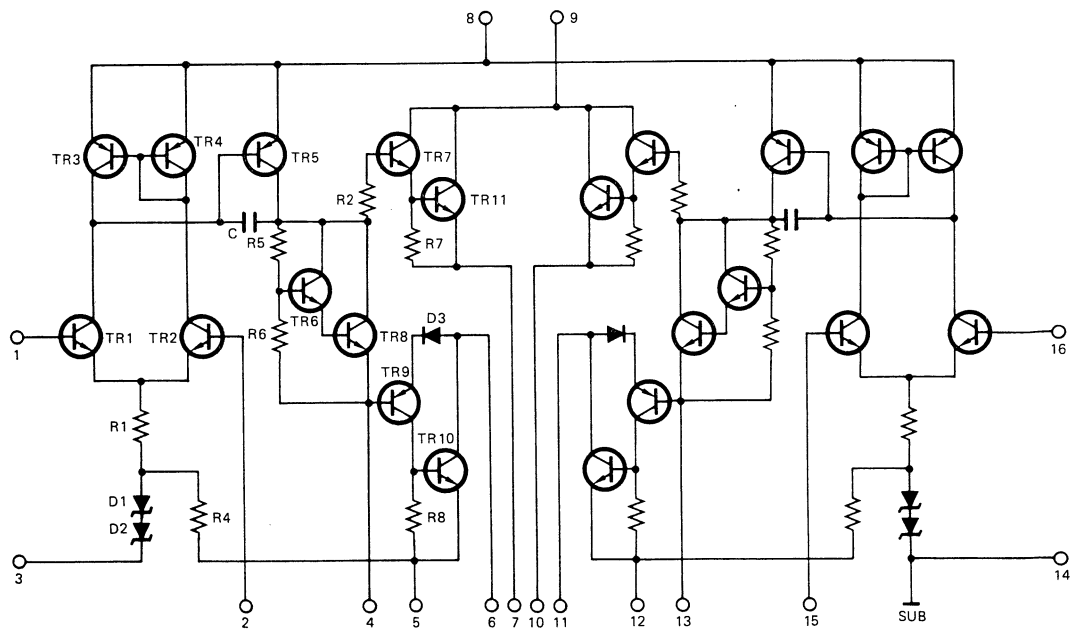


# IC EQUIVALENT CIRCUIT & BLOCK DIAGRAM (Continued)

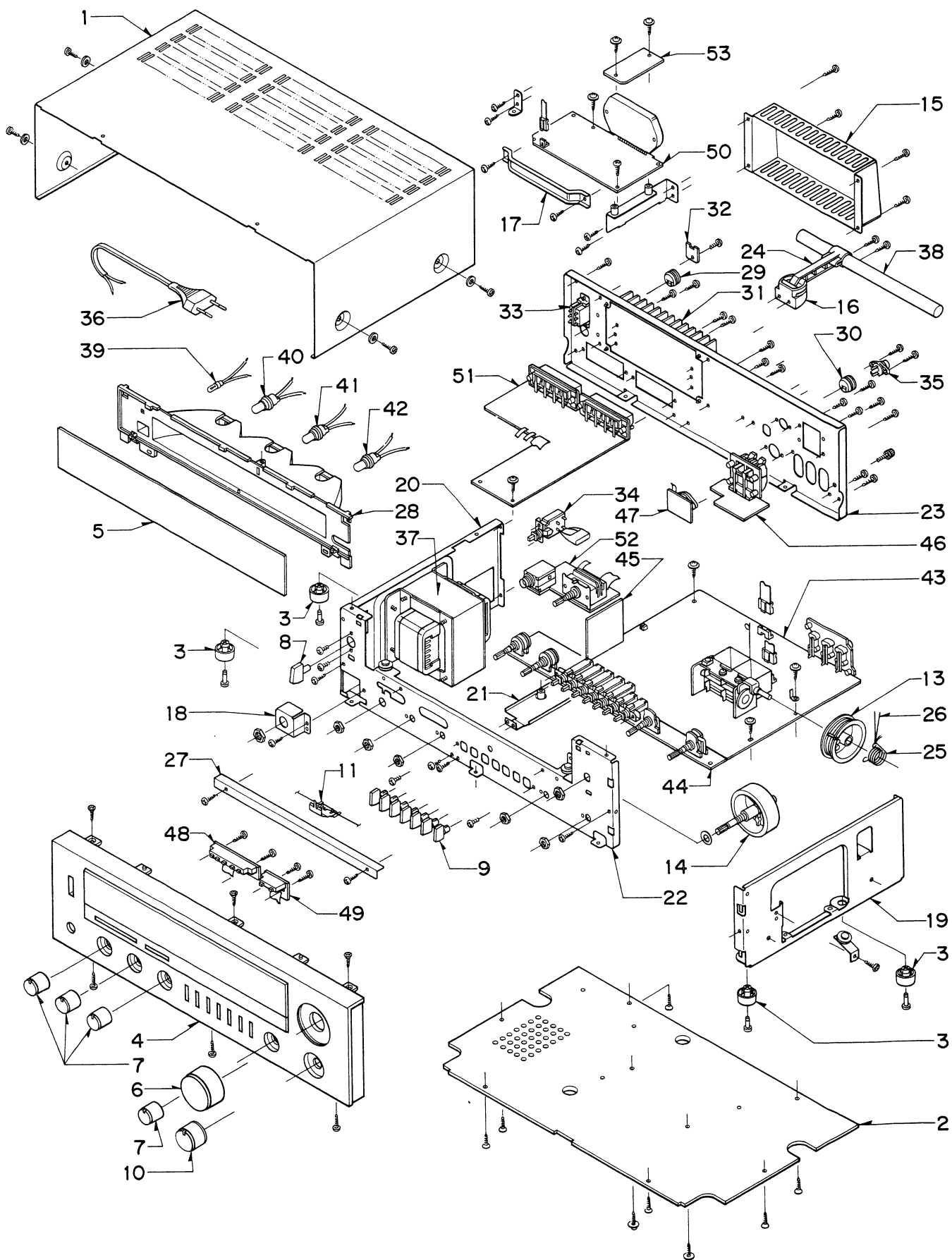
## AF AMP IC NJM4558



## POWER AMP IC STK-461



# EXPLODED VIEW OF CABINET AND CHASSIS



# PARTS LIST

## PACKING PARTS LIST

| Ref. No. | Parts Number     | Description          |
|----------|------------------|----------------------|
|          | 131 6 1139 86800 | Box Corrugate-EXP    |
|          | 131 6 2119 02091 | Bag Polyethylene-EXP |
|          | 131 6 3009 31520 | Pad                  |

## ACCESSORIES PARTS LIST

| Ref. No. | Parts Number     | Description         |
|----------|------------------|---------------------|
|          | 4 2442 00030     | Antenna FM          |
|          | 131 6 2719 10600 | Bag Fan             |
|          | 131 6 4119 85500 | Explanatory Booklet |

## CABINET PARTS LIST

| Ref. No. | Parts Number     | Description  |
|----------|------------------|--------------|
| 1        | 131 2 1410 24900 | Cover        |
| 2        | 131 2 1105 26600 | Plate Bottom |
| 3        | 131 2 1801 14600 | Leg          |

## APPEARANCE PARTS LIST

| Ref. No. | Parts Number     | Description         |
|----------|------------------|---------------------|
| 4        | 131 0 1016 37100 | Panel Decorate Assy |
| 5        | 131 2 1201 35203 | Plate Dial          |
| 6        | 131 2 1601 63000 | Knob (Tuning)       |
| 7        | 131 2 1601 63200 | Knob (Volume)       |
| 8        | 131 2 1601 63300 | Knob (Push)         |
| 9        | 131 2 1601 63400 | Knob (Push)         |
| 10       | 131 2 1601 66900 | Knob (Volume)       |
| 11       | 131 2 4101 22101 | Pointer             |

## CHASSIS PARTS LIST

| Ref. No. | Parts Number       | Description                    |
|----------|--------------------|--------------------------------|
| 13       | 131 0 3002 11300   | Drum Assy                      |
| 14       | 131 0 3003 20000   | Shaft Dial Assy                |
| 15       | 131 2 1410 25400   | Cover                          |
| 16       | 131 2 2207 10500   | Support Arm (Antenna)          |
| 17       | * 131 2 3101 71300 | Metal Mount (IC)               |
| 18       | * 131 2 3101 72700 | Metal Mount (Phone)            |
| 19       | * 131 2 3101 74400 | Metal Mount (Right Side Panel) |
| 20       | * 131 2 3101 74500 | Metal Mount (Left Side Panel)  |

## CHASSIS PARTS LIST

| Ref. No. | Parts Number       | Description         |
|----------|--------------------|---------------------|
| 21       | * 131 2 3101 74600 | Metal Mount         |
| 22       | * 131 2 3305 30200 | Panel Front         |
| 23       | * 131 2 3306 32700 | Panel Rear          |
| 24       | 131 2 3602 12101   | Holder Antenna      |
| 25       | 131 2 4111 00400   | Spring Rope         |
| 26       | 131 2 4112 10400   | Rope 0.5            |
| 27       | 131 2 4120 12900   | Slide Rail Pointer  |
| 28       | 131 2 6110 29300   | Shelter Light       |
| 29       | 131 2 6111 14200   | Bushing (AC Cord)   |
| 30       | 131 2 6111 14801   | Bushing (Ant. Lead) |
| 31       | 131 2 6201 29200   | Plate Heat Sink     |
| 32       | 131 2 7104 00500   | Plate Pad Switch    |

## ELECTRICAL PARTS LIST

| Ref. No. | Parts Number                                                                                     | Description                  |
|----------|--------------------------------------------------------------------------------------------------|------------------------------|
| 33       |  4 2312 01020   | Switch Slide                 |
| 34       |  4 2312 04520   | Switch Push Power            |
| 35       | 4 2352 00110                                                                                     | Socket 1P                    |
| 36       |  4 2432 00140   | Power Cord                   |
| 37       |  4 2512 14920   | Power Transformer            |
| 38       | 4 2579 25110                                                                                     | Bar Antenna AM               |
| 39       | 4 6122 00440                                                                                     | Pilot Lamp (6 V, 30 mA)      |
| 40       | 4 6129 20771                                                                                     | Pilot Lamp (8 V, 300 mA)     |
| 41       | 4 6129 20776                                                                                     | Pilot Lamp (8 V, 300 mA)     |
| 42       | 4 6129 20777                                                                                     | Pilot Lamp (8 V, 300 mA)     |
| 43       | * 131 0 4001 06080                                                                               | RF IF MPX P.C.B. Assy        |
| 44       | * 131 0 4001 06090                                                                               | Volume P.C.B. Assy           |
| 45       | * 131 0 4001 06100                                                                               | Muting P.C.B. Assy           |
| 46       | * 131 0 4001 06120                                                                               | Antenna P.C.B. Assy          |
| 47       | * 131 0 4001 06130                                                                               | DIN P.C.B. Assy              |
| 48       | * 131 0 4001 06140                                                                               | L.E.D. Signal P.C.B. Assy    |
| 49       | * 131 0 4001 06150                                                                               | L.E.D. Tuning P.C.B. Assy    |
| 50       | * 131 0 4001 06160                                                                               | Power Amp P.C.B. Assy        |
| 51       | * 131 0 4001 06170                                                                               | Power Supply P.C.B. Assy     |
| 52       | * 131 0 4001 06180                                                                               | Speaker Selector P.C.B. Assy |
| 53       | * 131 0 4001 06190                                                                               | Fuse P.C.B. Assy             |
| C01      |  4 2232 00550 | Oil Con. 0.01 $\mu$ F 450V   |

\*—Not a service part.

### PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK  IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.

# AM-FM MULTIPLEX ALIGNMENT

## AM ALIGNMENT

For alignment: Maintain generator output as low as possible for suitable indication.

| Step | Adjusting circuit   | Connection                                                                                            |                                                      | Position of Tuning dial                                 | Adjustment                           | V.T.V.M. Oscilloscope                                                               |
|------|---------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------|
|      |                     | Input                                                                                                 | Output                                               |                                                         |                                      |                                                                                     |
| 1    | IF                  | Connect 455 kHz sweep generator to VC4.                                                               | Connect Oscilloscope to Test Point TP7.              | Near max. capacity of VC at position of no interference | AM IFT 2-00040                       |  |
| 2    | MW (RF)             | Connect AM generator to EXT AM antenna and GND terminals. Set to 600 kHz. Modulate with 30 %, 400 Hz. | Connect Oscilloscope and AC. V.T.V.M. to REC Output. | 600 kHz                                                 | AM BAR ANT 9-25240<br>MW OSC 9-20851 | Max.                                                                                |
| 3    |                     | Change frequency to 1400 kHz.                                                                         |                                                      | 1400 kHz                                                | TC 01,03                             |                                                                                     |
| 4    | LW (RF)             | Change frequency to 160 kHz.                                                                          |                                                      | 160 kHz                                                 | LW OSC 9-20860                       | Max.                                                                                |
| 5    |                     | Change frequency to 350 kHz.                                                                          |                                                      | 350 kHz                                                 | TC 02, 04                            |                                                                                     |
| 6    | Repeat adjustments. |                                                                                                       |                                                      |                                                         |                                      |                                                                                     |

- Variable capacitor completely closed
- Set the dial pointer to very left line dial scale.
- Connect sweep generator, SG, V.T.V.M. and oscilloscope.
- Function switch to "MW" or "LW"
- Use a screwdriver with plastic grip for all adjustments.

## FM ALIGNMENT

| Step | Adjusting circuit   | Connection                                                                                                                                                                                                           |                                         | Position of Tuning dial                                  | Adjustment                                                       | V.T.V.M. Oscilloscope                                                                 |
|------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      |                     | Input                                                                                                                                                                                                                | Output                                  |                                                          |                                                                  |                                                                                       |
| 1    | IF                  | Connect sweep 10.7 MHz generator to test point VC2.                                                                                                                                                                  | Connect Oscilloscope to Test Point TP4. | Near max. capacity of VC. at position of no interference | FM IFT 9-21360                                                   |   |
| 2    | Quadrature Detector |                                                                                                                                                                                                                      | Connect Oscilloscope to Test Point TP2. |                                                          | FM QUADRATURE COIL 9-21320                                       |  |
| 3    | RF                  | Connect FM RF generator through two 120-ohm resistors to FM antenna screw terminals. Set generator to 90 MHz, modulate with 400 Hz to provide ±75 kHz deviation. Set generator output attenuator as low as possible. | Connect V.T.V.M. to REC Output.         | 90 MHz                                                   | FM ANT COIL 9-21180<br>FM RF COIL 9-20460<br>FM OSC COIL 9-20910 | Max.                                                                                  |
| 4    |                     | Change generator setting to 106 MHz.                                                                                                                                                                                 |                                         | 106 MHz                                                  | TCA,TCR,TCO                                                      | Max.                                                                                  |
| 5    | Repeat adjustments. |                                                                                                                                                                                                                      |                                         |                                                          |                                                                  |                                                                                       |

- Variable capacitor completely closed
- Set the dial pointer to very left line of dial scale.
- Connect sweep generator, FM SG, V.T.V.M. and oscilloscope. FM ANT input impedance is 75 ohm.
- Function switch to "FM"
- Use a screwdriver with plastic grip for all adjustments.

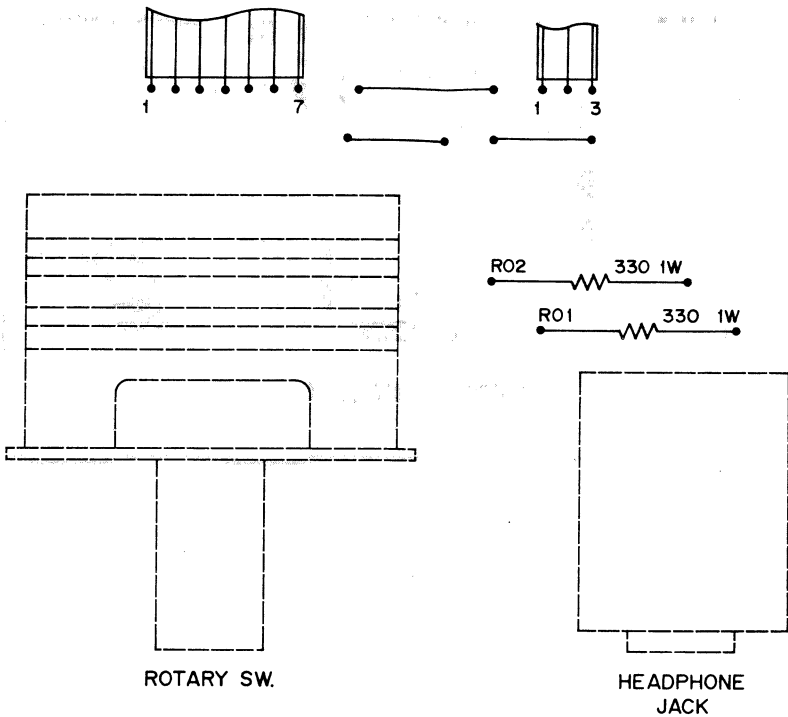
## FM MPX ALIGNMENT

| Step | Adjusting circuit                                               | Connection                                                                                                                                                                     |                                                      | Position of Tuning dial                                  | Adjustment                                                                     |               |
|------|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------|---------------|
|      |                                                                 | Input                                                                                                                                                                          | Output                                               |                                                          |                                                                                |               |
| 1    | PLL IC<br>FO (19 kHz)<br>Adjustmnet                             | None                                                                                                                                                                           | Connect Frequency counter or synchroscope to TP5     | Near max. capacity of VC. at position of no interference | Adjust VR04 (5k-B) so that frequency counter or synchroscope indicates 19 kHz. |               |
| 2    | FM STEREO<br>Signal<br>Separation                               | As above Steps 3,4 except modulation. Modulate LEFT channel $\pm 67.5$ kHz – 400 Hz audio and $\pm 7.5$ kHz – 19 kHz pilot carrier.<br>As above except modulate RIGHT Channel. | Connect V.T.V.M. to REC output terminal (R Channel). |                                                          | VR05 (1k-B)                                                                    | V.T.V.M. Min. |
|      |                                                                 |                                                                                                                                                                                | Connect V.T.V.M. to REC output terminal (L Channel). |                                                          |                                                                                |               |
| 3    | Repeat steps 1,2. Set at position with max. channel separation. |                                                                                                                                                                                |                                                      |                                                          |                                                                                |               |

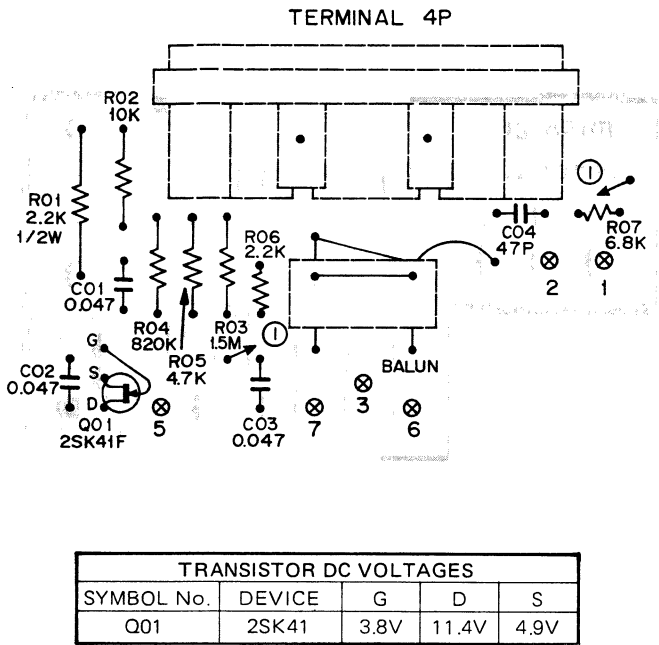
- Variable capacitor completely closed
- Connect FM stereo SG and V.T.V.M.
- Function switch to "FM"
- Use a screwdriver with plastic grip for all adjustments.



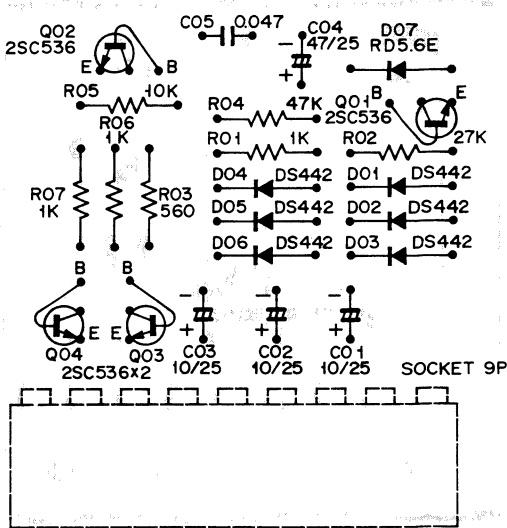
# **SPEAKER SELECTOR P.C.BOARD** (BOTTOM VIEW)



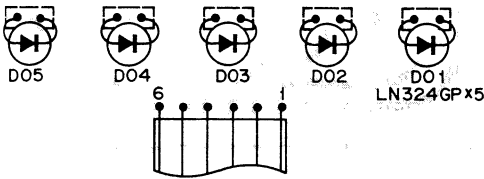
# **ANTENNA P.C.BOARD** (BOTTOM VIEW)



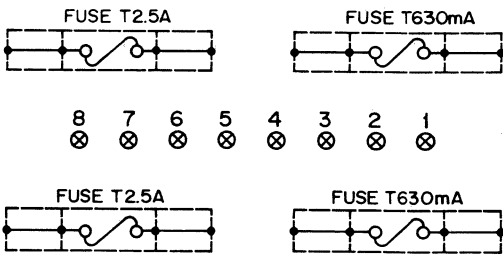
# **MUTING P.C.BOARD** (BOTTOM VIEW)



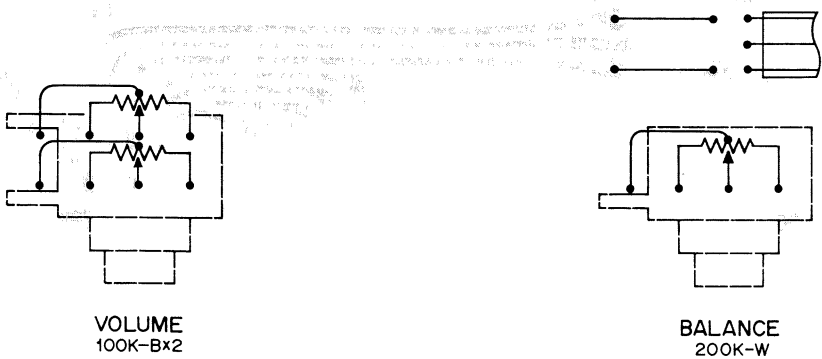
# **L.E.D SIGNAL P.C.BOARD** (BOTTOM VIEW)



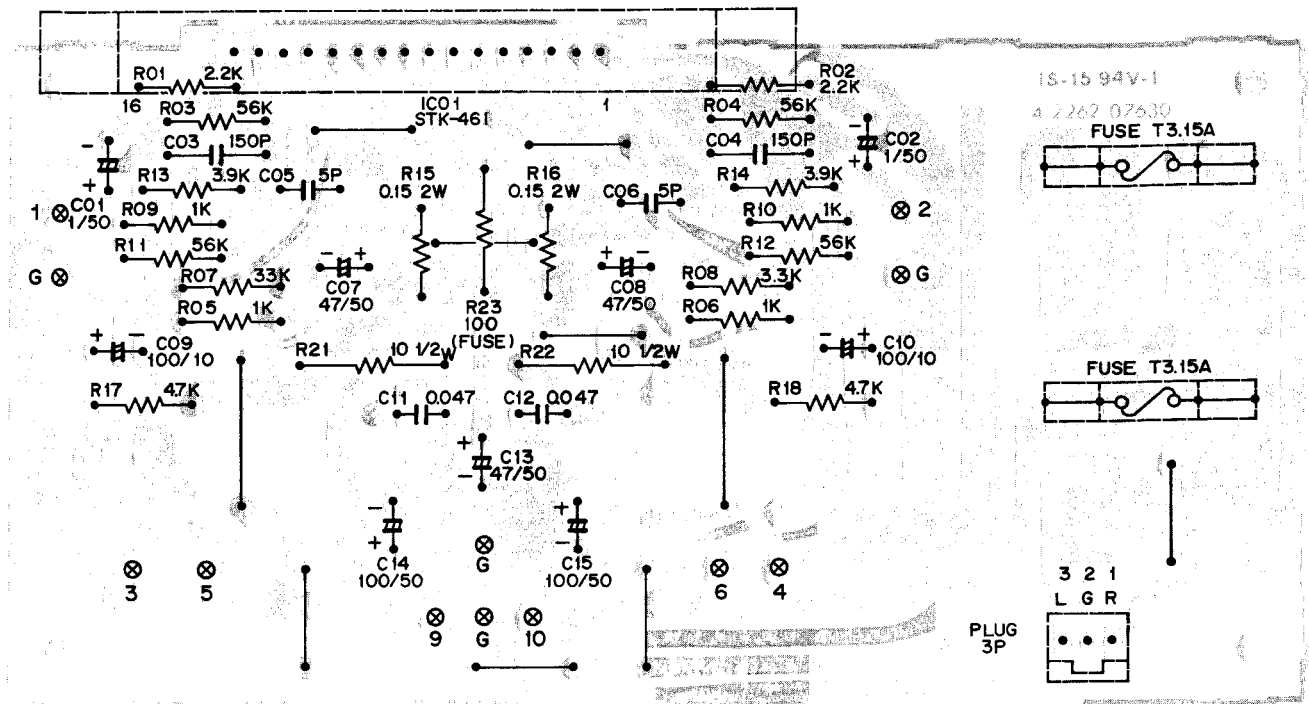
# **FUSE P.C.BOARD** (BOTTOM VIEW)



# **VOLUME P.C.BOARD** (BOTTOM VIEW)



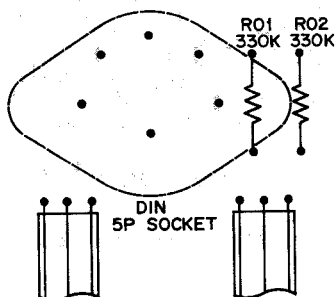
# POWER AMP P.C.BOARD (BOTTOM VIEW)



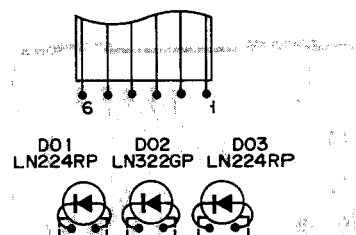
IC PIN NUMBERS VOLTAGES

| SYMBOL No. | DEVICE | 1  | 2  | 3  | 4    | 5      | 6  | 7  | 8     | 9     | 10 | 11 | 12     | 13    | 14 | 15 | 16 |
|------------|--------|----|----|----|------|--------|----|----|-------|-------|----|----|--------|-------|----|----|----|
| IC01       | STK461 | 0V | 0V | 0V | 1.3V | -32.3V | 0V | 0V | 30.3V | 32.0V | 0V | 0V | -32.3V | -1.3V | 0V | 0V | 0V |

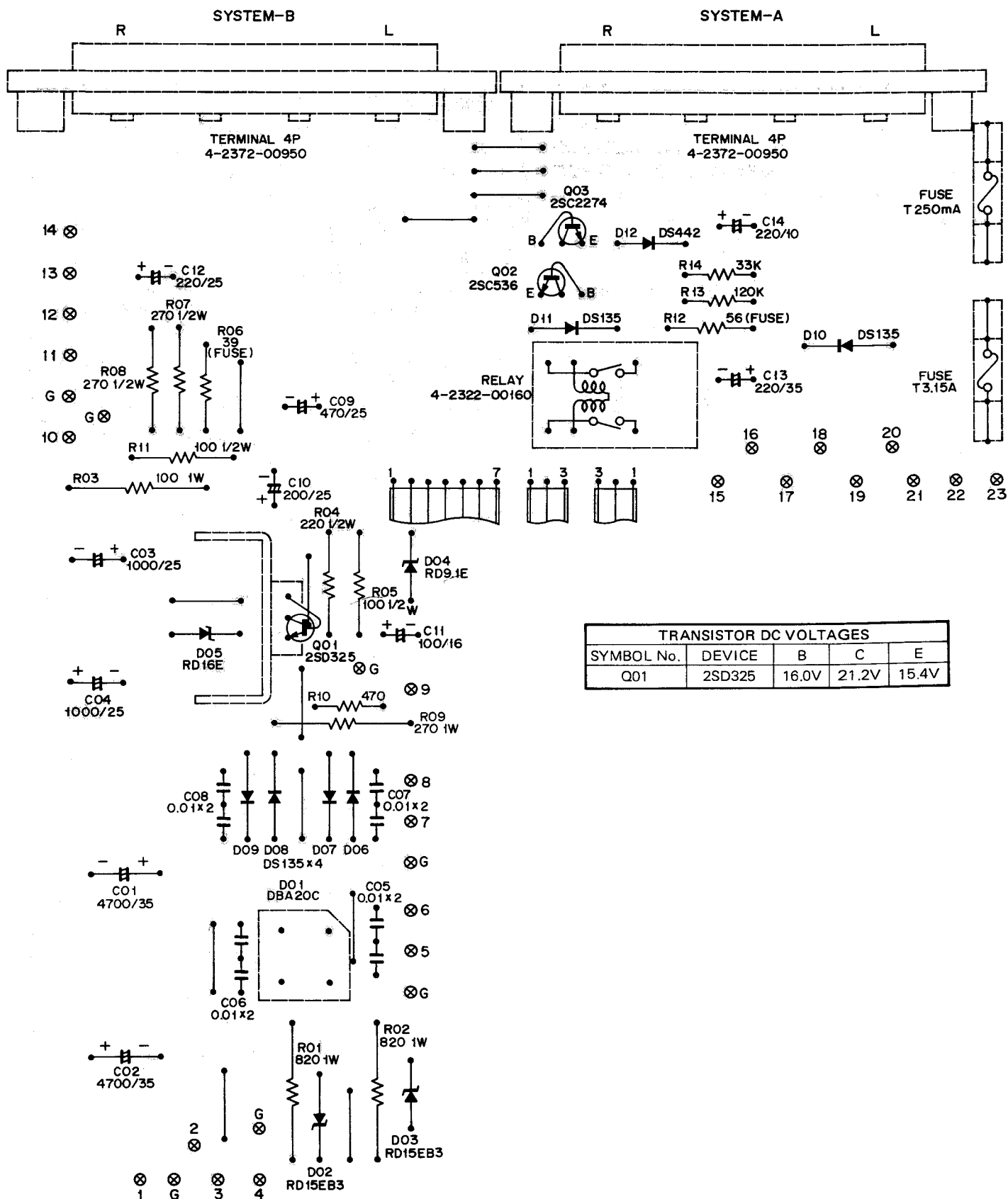
## DIN P.C.BOARD (BOTTOM VIEW)



## L.E.D. TUNING P.C.BOARD (BOTTOM VIEW)



# POWER SUPPLY P.C.BOARD (BOTTOM VIEW)



# PARTS LIST

RF IF MPX P.C.B. Assy  
131 0 4001 06080

| Ref. No. | Parts Number | Description                |
|----------|--------------|----------------------------|
|          | 4 2242 00100 | Variable Capacitor         |
|          | 4 2312 04870 | Switch Push 7 key          |
|          | 4 2329 20210 | Relay Leed                 |
|          | 4 2359 23220 | RCA 6P Jack                |
|          | 4 2362 00370 | Plug 6P                    |
|          | 4 2362 00530 | Plug 9P                    |
|          | 4 2522 00070 | AF Filter                  |
|          | 4 2522 00080 | AF Filter                  |
|          | 4 2562 00040 | IF Transformer AM          |
|          | 4 2569 21320 | IF Transformer FM          |
|          | 4 2569 21360 | IF Transformer FM          |
|          | 4 2579 21180 | Antenna Coil FM            |
|          | 4 2589 20851 | OSC Coil AM                |
|          | 4 2589 20860 | OSC Coil                   |
|          | 4 2589 20910 | OSC Coil FM                |
|          | 4 2599 20460 | RF Coil FM                 |
| 131      | 2 6103 16400 | Cover Shield               |
| CF01,02  | 4 2272 00020 | Ceramic Filter             |
| 03       |              |                            |
| CF04     | 4 2272 00030 | Ceramic Filter             |
| L01      | 4 2539 20420 | Choke Coil 2.2 $\mu$ H     |
| L02      | 4 2539 20120 | IF Trap                    |
| L03      | 4 2532 00030 | Choke Coil 18 $\mu$ H      |
| L04      | 4 2539 20410 | Choke Coil 470 $\mu$ H     |
| L05      | 4 2552 00140 | AF Coil                    |
| TC01     | 4 2249 20310 | Variable Capacitor (10P)   |
| TC02     | 4 2249 20440 | Trimmer Capacitor (20P)    |
| TC03     | 4 2249 20310 | Variable Capacitor (10P)   |
| TC04     | 4 2249 20440 | Trimmer Capacitor (20P)    |
| VR01     | 4 2222 00960 | VR 100k-B                  |
| VR02     | 4 2222 01010 | VR 50k-B                   |
| VR04     | 4 2222 01000 | VR 5k-B                    |
| VR05     | 4 2222 00990 | VR 1k-B                    |
| VR06     | 4 2222 00960 | VR 100k-B                  |
| VR07,08  | 4 2222 01650 | VR 100k-Cx2 (Bass, Treble) |

## CAPACITORS

|             |              |              |               |     |              |
|-------------|--------------|--------------|---------------|-----|--------------|
| C01         | C1HCYK150APA | Ceramic      | 15 pF         | 50V | $\pm 10\%$   |
| C02,03      | C1HYYZ223APA | Ceramic      | 0.022 $\mu$ F | 50V | +80,—20%     |
| C04         | C1HCDJ150SL  | Ceramic      | 15 pF         | 50V | $\pm 5\%$    |
| C05         | C1HCYD100APA | Ceramic      | 10 pF         | 50V | $\pm 0.5\%$  |
| C06         | C1HYYZ223APA | Ceramic      | 0.022 $\mu$ F | 50V | +80,—20%     |
| C07         | C1HCYK101APA | Ceramic      | 100 pF        | 50V | $\pm 10\%$   |
| C08         | C1HCYC030APA | Ceramic      | 3 pF          | 50V | $\pm 0.25\%$ |
| C09         | C1HCDK240PH  | Ceramic      | 24 pF         | 50V | $\pm 10\%$   |
| C10         | C1HCDD070CH  | Ceramic      | 7 pF          | 50V | $\pm 0.5\%$  |
| C11         | C1HCDK330CH  | Ceramic      | 33 pF         | 50V | $\pm 10\%$   |
| C12         | C1HCDD100CH  | Ceramic      | 10 pF         | 50V | $\pm 0.5\%$  |
| C13         | C1HYYZ223APA | Ceramic      | 0.022 $\mu$ F | 50V | +80,—20%     |
| C14,15      | C1HYYZ473APA | Ceramic      | 0.047 $\mu$ F | 50V | +80,—20%     |
| 16,17,18,19 |              |              |               |     |              |
| C20         | C1HYYZ223APA | Ceramic      | 0.022 $\mu$ F | 50V | +80,—20%     |
| C21,22      | C1HRY-105APA | Electrolytic | 1 $\mu$ F     | 50V |              |
| C23         | C1HYYZ223APA | Ceramic      | 0.022 $\mu$ F | 50V | +80,—20%     |
| C24         | C1HYYZ473APA | Ceramic      | 0.047 $\mu$ F | 50V | +80,—20%     |
| C25         | C1CRY-476APA | Electrolytic | 47 $\mu$ F    | 16V |              |
| C26         | C1HYYZ473APA | Ceramic      | 0.047 $\mu$ F | 50V | +80,—20%     |
| C27         | C1HCDK331SL  | Ceramic      | 330 pF        | 50V | $\pm 10\%$   |
| C28         | C1HRY-474APA | Electrolytic | 0.47 $\mu$ F  | 50V |              |
| C29         | C1ERY-475APA | Electrolytic | 4.7 $\mu$ F   | 25V |              |

| Ref. No. | Parts Number      | Description                          |
|----------|-------------------|--------------------------------------|
|          | <b>CAPACITORS</b> |                                      |
| C30      | C1HYYZ473APA      | Ceramic 0.047 $\mu$ F 50V +80,—20%   |
| C31      | C1HRY-105APA      | Electrolytic 1 $\mu$ F 50V           |
| C32      | C1CRY-107APA      | Electrolytic 100 $\mu$ F 16V         |
| C33      | C1CUEX474A        | Sint. Alu. 0.47 $\mu$ F 16V +40,—20% |
| C34      | C1CUEX224A        | Sint. Alu. 0.22 $\mu$ F 16V +40,—20% |
| C35      | C1CUEX474A        | Sint. Alu. 0.47 $\mu$ F 16V +40,—20% |
| C36      | C1ERY-475APA      | Electrolytic 4.7 $\mu$ F 25V         |
| C37      | C1HFKYK473APA     | Mylar 0.047 $\mu$ F 50V $\pm 10\%$   |
| C38      | C1HSEJ152A        | Styrol 1500 pF 50V $\pm 5\%$         |
| C39,40   | C1HFKYK103APA     | Mylar 0.01 $\mu$ F 50V $\pm 10\%$    |
| C41,42   | C1HRY-474APA      | Electrolytic 0.47 $\mu$ F 50V        |
| C49,50   | C1HRY-225LPA      | Electrolytic 2.2 $\mu$ F 50V         |
| C51,52   | C1HFKYK332APA     | Mylar 0.0033 $\mu$ F 50V $\pm 10\%$  |
| C53      | C1CRY-107APA      | Electrolytic 100 $\mu$ F 16V         |
| C54,55   | C1HYYZ473APA      | Ceramic 0.047 $\mu$ F 50V +80,—20%   |
| C56      | C1CRY-107APA      | Electrolytic 100 $\mu$ F 16V         |
| C57      | C1HCYK331APA      | Ceramic 330 pF 50V $\pm 10\%$        |
| C58      | C1HYYZ102APA      | Ceramic 0.001 $\mu$ F 50V +80,—20%   |
| C59,60   | C1HFKYK103APA     | Mylar 0.01 $\mu$ F 50V $\pm 10\%$    |
| C61      | C1HYYZ102APA      | Ceramic 0.001 $\mu$ F 50V +80,—20%   |
| C62      | C1HCYK470APA      | Ceramic 47 pF 50V $\pm 10\%$         |
| C63      | C1HFKYK103APA     | Mylar 0.01 $\mu$ F 50V $\pm 10\%$    |
| C64      | C1HYYZ473APA      | Ceramic 0.047 $\mu$ F 50V +80,—20%   |
| C65      | C1ERY-106APA      | Electrolytic 10 $\mu$ F 25V          |
| C66      | C1HFKYK103APA     | Mylar 0.01 $\mu$ F 50V $\pm 10\%$    |
| C67      | C1HYYZ473APA      | Ceramic 0.047 $\mu$ F 50V +80,—20%   |
| C68      | C1HRY-105APA      | Electrolytic 1 $\mu$ F 50V           |
| C69      | C1ERY-475APA      | Electrolytic 4.7 $\mu$ F 25V         |
| C70      | C1HFKYK183APA     | Mylar 0.018 $\mu$ F 50V $\pm 10\%$   |
| C71      | C1HFKYK683APA     | Mylar 0.068 $\mu$ F 50V $\pm 10\%$   |
| C72      | C1CRY-107APA      | Electrolytic 100 $\mu$ F 16V         |
| C73      | C1HRY-105APA      | Electrolytic 1 $\mu$ F 50V           |
| C74      | C1HFKYK333APA     | Mylar 0.033 $\mu$ F 50V $\pm 10\%$   |
| C75      | C1HSEJ341A        | Styrol 340 pF 50V $\pm 5\%$          |
| C76      | C1HCYC050APA      | Ceramic 5 pF 50V $\pm 0.25\%$        |
| C77      | C1HSEJ151A        | Styrol 150 pF 50V $\pm 5\%$          |
| C78      | C1HCYK560APA      | Ceramic 56 pF 50V $\pm 10\%$         |
| C79      | C1HCYK220APA      | Ceramic 22 pF 50V $\pm 10\%$         |
| C80      | C1HFKYK103APA     | Mylar 0.01 $\mu$ F 50V $\pm 10\%$    |
| C81      | C1HFKYK183APA     | Mylar 0.018 $\mu$ F 50V $\pm 10\%$   |
| C82      | C1ERY-106APA      | Electrolytic 10 $\mu$ F 25V          |
| C83,84   | C1HFRK563A        | Mylar 0.056 $\mu$ F 50V $\pm 10\%$   |
| C85,86   | C1HCYK471APA      | Ceramic 470 pF 50V $\pm 10\%$        |
| C87,88   | C1HCZK271BPA      | Ceramic 270 pF 50V $\pm 10\%$        |
| C89,90   | C1CRY-106LPA      | Electrolytic 10 $\mu$ F 16V          |
| C91,92   | C1ARY-107APA      | Electrolytic 100 $\mu$ F 10V         |
| C93,94   | C1HFKYK123APA     | Mylar 0.012 $\mu$ F 50V $\pm 10\%$   |
| C95,96   | C1HFKYK472APA     | Mylar 0.0047 $\mu$ F 50V $\pm 10\%$  |
| C97,98   | C1HRY-105APA      | Electrolytic 1 $\mu$ F 50V           |
| C99      | 4 2232 00430      | Ceramic 0.01 $\mu$ F x 2 250V        |
| C100,101 | C1CRY-106APA      | Electrolytic 10 $\mu$ F 16V          |
| 102,103  |                   |                                      |
| C104,105 | C1HFKYK273APA     | Mylar 0.027 $\mu$ F 50V $\pm 10\%$   |
| C106,107 | C1HFRJ224ML       | Mylar 0.22 $\mu$ F 50V $\pm 5\%$     |
| C108,109 | C1HFKYK222APA     | Mylar 0.0022 $\mu$ F 50V $\pm 10\%$  |
| C110,111 | C1HFKYK333APA     | Mylar 0.033 $\mu$ F 50V $\pm 10\%$   |
| C113,114 | C1HRY-106APA      | Electrolytic 10 $\mu$ F 50V          |
| C115     | C1HYYZ473APA      | Ceramic 0.047 $\mu$ F 50V +80,—20%   |

# PARTS LIST (Continued)

Ref. No. Parts Number Description

## SEMICONDUCTORS

D01,02 205 5 9040 44210 Diode, DS-442  
03,04  
05,06  
D07 DNN-RD9R1EB Diode, RD9.1EB  
IC01 206 5 0161 23151 IC, LA1231NS  
IC02 206 5 0743 35012 IC, LA3350B  
IC03 206 5 0171 24010 IC, LA1240  
IC04,05 1JJ-NJM4558DX IC, NJM4558D  
Q01 TNN-2SK49--F2 TR 2SK49 F2, H  
Q02 TTK-2SC535--B TR 2SC535 B, C  
Q03,04 203 5 5500 93040 TR 2SC930 D, E  
Q06,07 203 5 5251 57160 TR 2SC1571 F, G  
Q08 203 5 6510 04160 TR 2SK41 F  
Q09 203 5 5000 53660 TR 2SC536 F, G  
Q11 203 5 5251 57180 TR 2SC1571 H  
Q12 203 5 5000 53660 TR 2SC536 F, G  
Q13 203 5 7230 60860 TR 2SA608 F, G  
Q14 203 5 7252 27460 TR 2SC2274 F, G  
Q15,16 203 5 5000 53660 TR 2SC536 F, G  
17,18

## RESISTORS

R01 R2EDZJ680APA Carbon 68 1/4W ±5%  
R02 R2HXB101A Oxide Metal Film 100 1/2W ±5%  
R03 R2EDZJ472APA Carbon 4.7k 1/4W ±5%  
R04 R2EDZJ223APA Carbon 22k 1/4W ±5%  
R05 R2EDZJ102APA Carbon 1k 1/4W ±5%  
R07 R2EDUJ4R7A Carbon 4.7 1/4W ±5%  
R08 R2EDUJ103A Carbon 10k 1/4W ±5%  
R09 R2EDUJ222A Carbon 2.2k 1/4W ±5%  
R10 R2EDUJ103A Carbon 10k 1/4W ±5%  
R11 R2EDZJ122APA Carbon 1.2k 1/4W ±5%  
R12 R2EDZJ100APA Carbon 10 1/4W ±5%  
R13 R2HXB101A Oxide Metal Film 100 1/2W ±5%  
R14 R2EDZJ391APA Carbon 390 1/4W ±5%  
R15 R2EDZJ222APA Carbon 2.2k 1/4W ±5%  
R16 R2EDZJ471APA Carbon 470 1/4W ±5%  
R17 R2EDZJ122APA Carbon 1.2k 1/4W ±5%  
R18 R2EDZJ331APA Carbon 330 1/4W ±5%  
R19 R2EDZJ104APA Carbon 100k 1/4W ±5%  
R20 R2EDZJ222APA Carbon 2.2k 1/4W ±5%  
R21 R2EDZJ474APA Carbon 470k 1/4W ±5%  
R22 R2EDZJ223APA Carbon 22k 1/4W ±5%  
R23 R2EDZJ103APA Carbon 10k 1/4W ±5%  
R25 R2EDZJ562APA Carbon 5.6k 1/4W ±5%  
R26 R2EDZJ222APA Carbon 2.2k 1/4W ±5%  
R27 R2EDZJ822APA Carbon 8.2k 1/4W ±5%  
R29 R2EDZJ274APA Carbon 270k 1/4W ±5%  
R30 R2EDZJ563APA Carbon 56k 1/4W ±5%  
R31 R2EDZJ103APA Carbon 10k 1/4W ±5%  
R32 R2EDZJ473APA Carbon 47k 1/4W ±5%  
R33 R2EDZJ222APA Carbon 2.2k 1/4W ±5%  
R34 R2HXB1220A Oxide Metal Film 22 1/2W ±5%  
R37 R2EDZJ332APA Carbon 3.3k 1/4W ±5%  
R38 R2EDZJ822APA Carbon 8.2k 1/4W ±5%  
R39 R2EDZJ222APA Carbon 2.2k 1/4W ±5%  
R40 R2HXB1680A Oxide Metal Film 68 1/2W ±5%  
R41,42 R2EDZJ562APA Carbon 5.6k 1/4W ±5%  
R43,44 R2EDZJ274APA Carbon 270k 1/4W ±5%

Ref. No. Parts Number Description

## RESISTORS

R45,46 R2EDZJ473APA Carbon 47k 1/4W ±5%  
R47,48 R2EDZJ102APA Carbon 1k 1/4W ±5%  
R51,52 R2EDZJ332APA Carbon 3.3k 1/4W ±5%  
R53,54 R2EDZJ561APA Carbon 560 1/4W ±5%  
R55,56 R2EDZJ332APA Carbon 3.3k 1/4W ±5%  
R57,58 R2EDZJ102APA Carbon 1k 1/4W ±5%  
R59 R2EDZJ101APA Carbon 100 1/4W ±5%  
R60 R2EDZJ155APA Carbon 1.5M 1/4W ±5%  
R61 R2EDZJ824APA Carbon 820k 1/4W ±5%  
R62 R2EDZJ472APA Carbon 4.7k 1/4W ±5%  
R63 R2HXB1680A Oxide Metal Film 68 1/2W ±5%  
R64 R2EDZJ102APA Carbon 1k 1/4W ±5%  
R65 R2EDZJ331APA Carbon 330 1/4W ±5%  
R66 R2EDZJ222APA Carbon 2.2k 1/4W ±5%  
R67 R2EDZJ152APA Carbon 1.5k 1/4W ±5%  
R68 R2EDZJ153APA Carbon 15k 1/4W ±5%  
R69 R2HXB101A Oxide Metal Film 100 1/2W ±5%  
R70 R2EDZJ222APA Carbon 2.2k 1/4W ±5%  
R71,72 R2EDZJ103APA Carbon 10k 1/4W ±5%  
R73 R2EDZJ272APA Carbon 2.7k 1/4W ±5%  
R74 R2EDZJ154APA Carbon 150k 1/4W ±5%  
R75 R2EDZJ563APA Carbon 56k 1/4W ±5%  
R76 R2EDZJ332APA Carbon 3.3k 1/4W ±5%  
R77 R2EDZJ122APA Carbon 1.2k 1/4W ±5%  
R78 R2EDZJ104APA Carbon 100k 1/4W ±5%  
R79 R2EDZJ102APA Carbon 1k 1/4W ±5%  
R80 R2HXB101A Oxide Metal Film 100 1/2W ±5%  
R81 R2EDZJ561APA Carbon 560 1/4W ±5%  
R82 R2EDZJ103APA Carbon 10k 1/4W ±5%  
R83 R2EDZJ471APA Carbon 470 1/4W ±5%  
R84 R2EDZJ103APA Carbon 10k 1/4W ±5%  
R85 R2EDZJ391APA Carbon 390 1/4W ±5%  
R86 R2EDZJ103APA Carbon 10k 1/4W ±5%  
R87 R2EDZJ331APA Carbon 330 1/4W ±5%  
R88 R2EDZJ103APA Carbon 10k 1/4W ±5%  
R89 R2EDZJ271APA Carbon 270 1/4W ±5%  
R90 R2EDZJ103APA Carbon 10k 1/4W ±5%  
R91 R2EDZJ474APA Carbon 470k 1/4W ±5%  
R92 R2EDZJ473APA Carbon 47k 1/4W ±5%  
R93 R2EDZJ472APA Carbon 4.7k 1/4W ±5%  
R94 R2EDZJ474APA Carbon 470k 1/4W ±5%  
R95,96 R2EDZJ331APA Carbon 330 1/4W ±5%  
R97 R2EDZJ473APA Carbon 47k 1/4W ±5%  
R98 R2EDZJ154APA Carbon 150k 1/4W ±5%  
R99 R2EDZJ103APA Carbon 10k 1/4W ±5%  
R100 R2EDZJ184APA Carbon 180k 1/4W ±5%  
R101 R2EDZJ394APA Carbon 390k 1/4W ±5%  
R102 R2EDZJ102APA Carbon 1k 1/4W ±5%  
R103,104 R2EDZJ103APA Carbon 10k 1/4W ±5%  
R105,106 R2EDZJ821APA Carbon 820 1/4W ±5%  
R107 R2EDZJ103APA Carbon 10k 1/4W ±5%  
R108,109 R2EDZJ822APA Carbon 8.2k 1/4W ±5%  
R110,111 R2EDZJ392APA Carbon 3.9k 1/4W ±5%  
R112,113 R2EDZJ271APA Carbon 270 1/4W ±5%  
R114,115 R2EDZJ473APA Carbon 47k 1/4W ±5%  
R116,117 R2EDZJ331APA Carbon 330 1/4W ±5%  
R118,119 R2EDZJ224APA Carbon 220k 1/4W ±5%  
R120,121 R2EDZJ153APA Carbon 15k 1/4W ±5%

# PARTS LIST (Continued)

Ref. No. Parts Number Description

## RESISTORS

|          |              |        |      |      |     |
|----------|--------------|--------|------|------|-----|
| R122,123 | R2EDUJ104A   | Carbon | 100k | 1/4W | ±5% |
| R124,125 | R2EDZJ103APA | Carbon | 10k  | 1/4W | ±5% |
| R126,127 | R2EDZJ823APA | Carbon | 82k  | 1/4W | ±5% |
| R128,129 | R2EDZJ182APA | Carbon | 1.8k | 1/4W | ±5% |
| R130,131 | R2EDZJ561APA | Carbon | 560  | 1/4W | ±5% |
| R132,133 | R2EDZJ122APA | Carbon | 1.2k | 1/4W | ±5% |

## VOLUME P.C.B. Assy 131 0 4001 06090

Ref. No. Parts Number Description

|   |            |                       |
|---|------------|-----------------------|
| 4 | 2222 01630 | VR 100k-Bx2 (Volume)  |
| 4 | 2222 01670 | VR 200k-Wx1 (Balance) |

## MUTING P.C.B. Assy 131 0 4001 06100

Ref. No. Parts Number Description

|   |            |           |
|---|------------|-----------|
| 4 | 2352 00810 | Socket 9P |
|---|------------|-----------|

## CAPACITORS

|              |              |              |          |              |
|--------------|--------------|--------------|----------|--------------|
| C01,02<br>03 | C1ERY-106APA | Electrolytic | 10 μF    | 25V          |
| C04          | C1ERY-476APA | Electrolytic | 47 μF    | 25V          |
| C05          | C1HYYZ473APA | Ceramic      | 0.047 μF | 50V +80,-20% |

## SEMICONDUCTORS

|                          |                  |                |
|--------------------------|------------------|----------------|
| D01,02<br>03,04<br>05,06 | 205 5 9040 44210 | Diode, DS-442  |
| D07                      | DNN-RD5R6EB      | Diode, RD5.6EB |
| Q01,02<br>03,04          | 203 5 5000 53660 | TR 2SC536F, G  |

## RESISTORS

|        |              |        |     |      |     |
|--------|--------------|--------|-----|------|-----|
| R01    | R2EDZJ102APA | Carbon | 1k  | 1/4W | ±5% |
| R02    | R2EDZJ273APA | Carbon | 27k | 1/4W | ±5% |
| R03    | R2EDZJ561APA | Carbon | 560 | 1/4W | ±5% |
| R04    | R2EDZJ473APA | Carbon | 47k | 1/4W | ±5% |
| R05    | R2EDZJ103APA | Carbon | 10k | 1/4W | ±5% |
| R06,07 | R2EDZJ102APA | Carbon | 1k  | 1/4W | ±5% |

## ANTENNA P.C.B. Assy 131 0 4001 06120

Ref. No. Parts Number Description

|   |            |                |
|---|------------|----------------|
| 4 | 2372 00770 | SP Terminal 4P |
| 4 | 2599 20300 | Balun          |

## CAPACITORS

|              |              |         |          |              |
|--------------|--------------|---------|----------|--------------|
| C01,02<br>03 | C1HYYZ473APA | Ceramic | 0.047 μF | 50V +80,-20% |
| C04          | C1HCYK470APA | Ceramic | 47 pF    | 50V ±10%     |

Ref. No. Parts Number Description

## SEMICONDUCTORS

|     |                  |           |
|-----|------------------|-----------|
| Q01 | 203 5 6510 04160 | TR 2SK41F |
|-----|------------------|-----------|

## RESISTORS

|     |              |        |      |      |      |
|-----|--------------|--------|------|------|------|
| R01 | R2HCPK222A   | Solid  | 2.2k | 1/2W | ±10% |
| R02 | R2EDZJ103APA | Carbon | 10k  | 1/4W | ±5%  |
| R03 | R2EDZJ155APA | Carbon | 1.5M | 1/4W | ±5%  |
| R04 | R2EDZJ824APA | Carbon | 820k | 1/4W | ±5%  |
| R05 | R2EDZJ472APA | Carbon | 4.7k | 1/4W | ±5%  |
| R06 | R2EDUJ222A   | Carbon | 2.2k | 1/4W | ±5%  |
| R07 | R2EDUJ682A   | Carbon | 6.8k | 1/4W | ±5%  |

## DIN P.C.B. Assy 131 0 4001 06130

Ref. No. Parts Number Description

|   |            |        |
|---|------------|--------|
| 4 | 2352 00370 | DIN 5P |
|---|------------|--------|

## RESISTORS

|        |              |        |      |      |     |
|--------|--------------|--------|------|------|-----|
| R01,02 | R2EDZJ334APA | Carbon | 330k | 1/4W | ±5% |
|--------|--------------|--------|------|------|-----|

## L.E.D. SIGNAL P.C.B. Assy 131 0 4001 06140

Ref. No. Parts Number Description

## SEMICONDUCTORS

|                    |             |                |
|--------------------|-------------|----------------|
| D01,02<br>03,04,05 | DWW-LN324GP | Diode, LN324GP |
|--------------------|-------------|----------------|

## L.E.D. TUNING P.C.B. Assy 131 0 4001 06150

Ref. No. Parts Number Description

## SEMICONDUCTORS

|     |             |                |
|-----|-------------|----------------|
| D01 | DWW-LN224RP | Diode, LN224RP |
| D02 | DWW-LN322GP | Diode, LN322GP |
| D03 | DWW-LN224RP | Diode, LN224RP |

## POWER AMP P.C.B. Assy 131 0 4001 06160

Ref. No. Parts Number Description

|   |            |             |
|---|------------|-------------|
| 4 | 2349 20580 | Fuse 3.15 A |
|---|------------|-------------|

## CAPACITORS

|        |               |              |          |            |
|--------|---------------|--------------|----------|------------|
| C01,02 | C1HRY-105APA  | Electrolytic | 1 μF     | 50V        |
| C03,04 | C1HCZK151BPA  | Ceramic      | 150 pF   | 50V ±10%   |
| C05,06 | C1HCDC050SL   | Ceramic      | 5 pF     | 50V ±0.25% |
| C07,08 | C1HRY-476APA  | Electrolytic | 47 μF    | 50V        |
| C09,10 | C1ARY-107APA  | Electrolytic | 100 μF   | 10V        |
| C11,12 | C1HFKYK473APA | Mylar        | 0.047 μF | 50V ±10%   |
| C13    | C1HRY-476APA  | Electrolytic | 47 μF    | 50V        |
| C14,15 | C1HRE-107A    | Electrolytic | 100 μF   | 50V        |

# PARTS LIST (Continued)

Ref. No. Parts Number Description

## SEMICONDUCTORS

IC01 206 5 7340 46170 IC, STK-461SA

## RESISTORS

|        |              |                  |      |      |      |
|--------|--------------|------------------|------|------|------|
| R01,02 | R2EDZJ222APA | Carbon           | 2.2k | 1/4W | ±5%  |
| R03,04 | R2EDZJ563APA | Carbon           | 56k  | 1/4W | ±5%  |
| R05,06 | R2EDZJ102APA | Carbon           | 1k   | 1/4W | ±5%  |
| R07,08 | R2EDZJ332APA | Carbon           | 3.3k | 1/4W | ±5%  |
| R09,10 | R2EDZJ102APA | Carbon           | 1k   | 1/4W | ±5%  |
| R11,12 | R2EDZJ563APA | Carbon           | 56k  | 1/4W | ±5%  |
| R13,14 | R2EDZJ392APA | Carbon           | 3.9k | 1/4W | ±5%  |
| R15,16 | 4 2212 00140 | Metallized Paper | 0.15 | 2W   |      |
| R17,18 | R2EDZJ472APA | Carbon           | 4.7k | 1/4W | ±5%  |
| R21,22 | R2HXB100A    | Oxide Metal Film | 10   | 1/2W | ±5%  |
| R23    | R2HZK101A    | Fuse             | 100  | 1/2W | ±10% |

## POWER SUPPLY P.C.B. Assy

131 0 4001 06170

Ref. No. Parts Number Description

4 2322 00160 Relay  
4 2349 20580 Fuse 3.15 A  
4 2349 21320 Fuse 250 mA  
4 2372 00950 Terminal 4P

## CAPACITORS

|        |              |              |                |      |
|--------|--------------|--------------|----------------|------|
| C01,02 | 4 2232 00480 | Electrolytic | 4700 $\mu$ F   | 35V  |
| C03,04 | C1ERE-108A   | Electrolytic | 1000 $\mu$ F   | 25V  |
| C05,06 | 4 2232 00430 | Ceramic      | 0.01 $\mu$ Fx2 | 250V |
| 07,08  |              |              |                |      |
| C09    | C1ERE-477A   | Electrolytic | 470 $\mu$ F    | 25V  |
| C10    | C1ERE-227A   | Electrolytic | 200 $\mu$ F    | 25V  |
| C11    | C1CRY-107APA | Electrolytic | 100 $\mu$ F    | 16V  |
| C12    | C1ERE-227A   | Electrolytic | 220 $\mu$ F    | 25V  |
| C13    | C1VRE-227A   | Electrolytic | 220 $\mu$ F    | 35V  |
| C14    | C1ARY-227APA | Electrolytic | 220 $\mu$ F    | 10V  |

## SEMICONDUCTORS

|        |                  |                 |         |
|--------|------------------|-----------------|---------|
| D01    | 202 5 2570 02015 | Diode, DBA      | 20C-K15 |
| D02,03 | DNN-RD15EB3      | Diode, RD15EB3  |         |
| D04    | DNN-RD9R1EB      | Diode, RD9.1EB  |         |
| D05    | DNN-RD16EB       | Diode, RD16EB   |         |
| D06,07 | 202 5 2470 13540 | Diode, DS135D   |         |
| 08,09  |                  |                 |         |
| 10,11  |                  |                 |         |
| D12    | 205 5 9040 44210 | Diode, DS-442   |         |
| Q01    | 203 5 8620 32550 | TR 2SD325 E, F  |         |
| Q02    | 203 5 5000 53660 | TR 2SC536 F, G  |         |
| Q03    | 203 5 7252 27450 | TR 2SC2274 E, F |         |

## RESISTORS

|        |            |                  |     |      |      |
|--------|------------|------------------|-----|------|------|
| R01,02 | R3AXB1821A | Oxide Metal Film | 820 | 1W   | ±5%  |
| R03    | R3AXB101A  | Oxide Metal Film | 100 | 1W   | ±5%  |
| R04    | R2HXB1221A | Oxide Metal Film | 220 | 1/2W | ±5%  |
| R05    | R2HXB101A  | Oxide Metal Film | 100 | 1/2W | ±5%  |
| R06    | R2HZPK390A | Fuse             | 39  | 1/2W | ±10% |

DCX 233L

Ref. No. Parts Number Description

## RESISTORS

|        |              |                  |      |      |      |
|--------|--------------|------------------|------|------|------|
| R07,08 | R2HXB1271A   | Oxide Metal Film | 270  | 1/2W | ±5%  |
| 09     |              |                  |      |      |      |
| R10    | R2EDZJ471APA | Carbon           | 470  | 1/4W | ±5%  |
| R11    | R2HXB101A    | Oxide Metal Film | 100  | 1/2W | ±5%  |
| R12    | R2HZPK560A   | Fuse             | 56   | 1/2W | ±10% |
| R13    | R2EDZJ124APA | Carbon           | 120k | 1/4W | ±5%  |
| R14    | R2EDZJ333APA | Carbon           | 33k  | 1/4W | ±5%  |

## SPEAKER SELECTOR P.C.B. Assy

131 0 4001 06180

Ref. No. Parts Number Description

4 2312 03880 Switch Rotary  
4 2352 00190 Microphone Jack 3P

## RESISTORS

|        |            |                  |     |    |     |
|--------|------------|------------------|-----|----|-----|
| R01,02 | R3AXB1331A | Oxide Metal Film | 330 | 1W | ±5% |
|--------|------------|------------------|-----|----|-----|

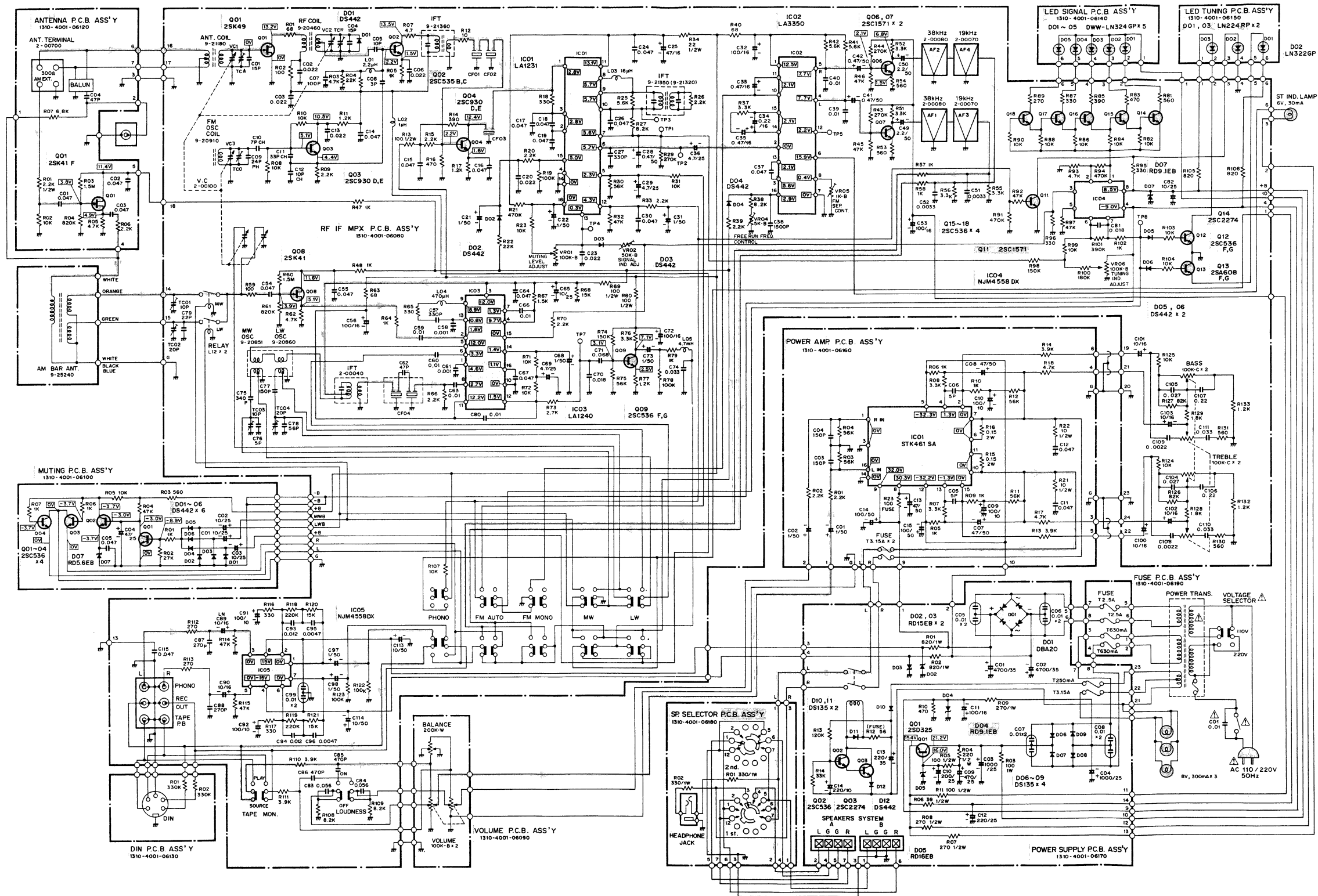
## FUSE P.C.B. Assy

131 0 4001 06190

Ref. No. Parts Number Description

4 2349 20400 Fuse 630 mA  
4 2349 20570 Fuse 2.5 AT

# SCHEMATIC DIAGRAM



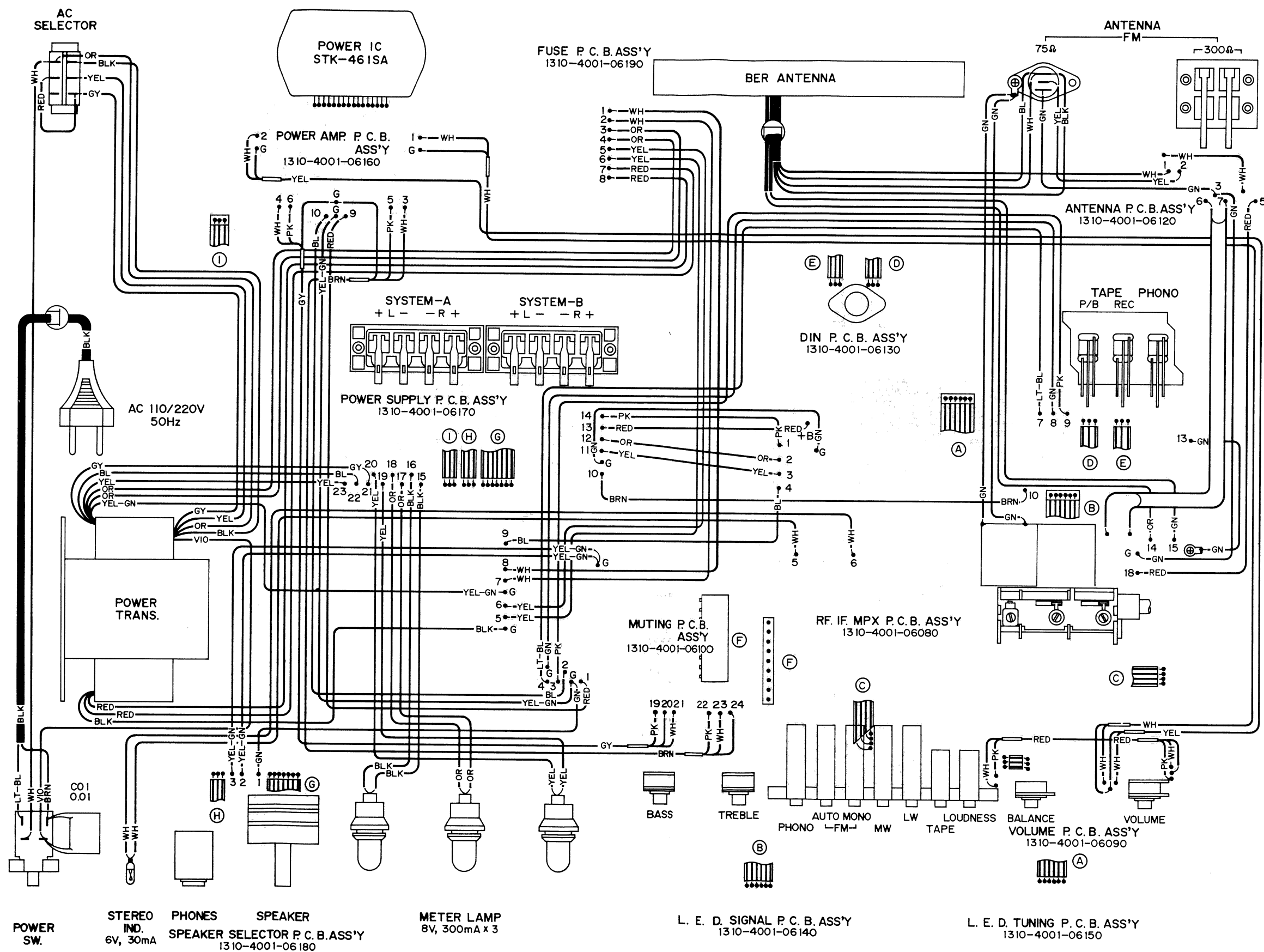
## NOTES:

1. All resistors values are indicated in "ohm" ( $K=10^3$ ,  $M=10^6$ ).
2. All capacitors values are indicated in " $\mu F$ " ( $P=10^{-12}$ ).
3. All voltages indicated on the schematics are measured under the following conditions.
  - a. Use a V.T.V.M.
  - b. All voltages  $\pm 10\%$  with respect chassis ground
  - c. No signals at input terminals
  - d. AC input at 220 volts 50 Hz
4. This is a fundamental schematics diagram. Some products may be modified without notice.

## PRODUCT SAFETY NOTICE

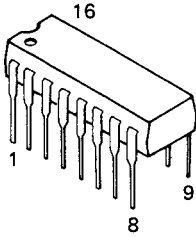
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK  IN THIS SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE ATTACHED PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.

# POINT TO POINT WIRING DIAGRAM

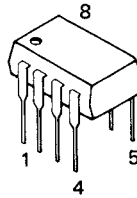


# SEMICONDUCTOR LEAD IDENTIFICATION

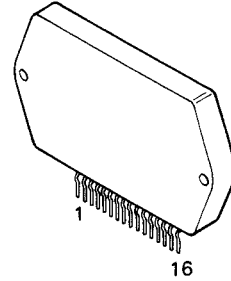
## INTEGRATED CIRCUITS



- LA1231
- LA3350
- LA1240

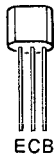


- NJM4558



- STK-461

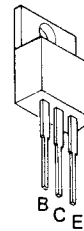
## TRANSISTORS



- 2SA608
- 2SC535
- 2SC536
- 2SC930
- 2SC1571
- 2SC2274

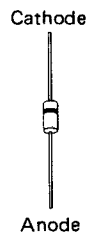


- 2SK41
- 2SK49

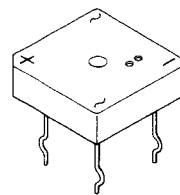


- 2SD325

## DIODES



- DS135
- DS442
- RD5.6E
- RD9.1E
- RD15E
- RD16E



- DBA-20C